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PNH-01

February 24, 1999

To: Richard Schroeder, Schroeder & Associates
Steve Pfeiffer, Stoel Rives Attorneys

From: Tony Righellis, P.E., Harper Houf Righellis, Inc. TONY

Re: Pinehurst Development (Clatsop County, Oregon) Drainage Review – Initial Opinion

Based on my site observations yesterday and the review of the recently surveyed spot elevations, area-wide topographic maps, and the construction plans I have formed an opinion on the issues that I understand have been raised by others.

There is standing water in the roadway area in Surf Pines just north of Pinehurst that has curtailed access to several existing homes. I also observed standing water in other developed areas. There has been an extraordinary amount of rainfall this winter and for several previous winters without relief.

The standing water in Surf Pines is trapped in an historical low area that has no outlet. The water appears to be a combination of trapped surface runoff and high groundwater. It is reasonable to expect that after so many consecutive years of above average rainfall amounts that the groundwater would rise to levels never seen before.

Based on the mapping and survey information it is clear that the inundated Surf Pines area did not historically drain south through Pinehurst prior to the construction of Pinehurst. The standing water in Surf Pines was surveyed to be elevation 23.5 feet ±. The standing water in Surf Pines would have to increase to above elevation 25 feet to drain southward through Pinehurst and through the culvert under Highlands Lane as the inlet to that culvert is at elevation 24.9± feet and there are several undisturbed areas within Pinehurst of similar elevation. I estimate that the inundated road in Surf Pines has locations as low as elevation 20± feet.

I understand that it has been claimed that construction equipment may have compacted the ground sufficiently to reduce the ability of water to move laterally underground thus be one reason why the standing water in Surf Pines is not escaping. This is can not be the case for several reasons. First, the soil appears to be granular (sand), thus regardless of compaction effort can not be compressed like clay and become impermiable. Second, construction equipment running along the surface can not compress any soil type to depths sufficient to create a measurable blockage of groundwater movement. Third, if groundwater used to move so freely through the soil it should still be moving freely west to the ocean through similar material.

It is unfortunate that there is deep standing water in Surf Pines, but it appears to me to be from natural causes and not Pinehurst construction. The question begs that if the standing water was only one-foot deep in Surf Pines, would there be the tendency to focus on Pinehurst as the problem? There would still be an access problem but it would be even more obvious that Pinehurst was not the reason for the inundation.

Principals
Charles L. Harper, P.E.
Daniel S. Houf, P.E.
Anthony O. Righellis, P.E.

Associates
Ron D. Peterson, P.E.

Anthony O. Righellis, P.E.

General Experience

Mr. Righellis is a co-founder of Harper Houf Righellis, Inc. His experience as a civil engineer and flood plain specialist includes studies, designs, and the administration of public and private projects.

Since 1977, Mr. Righellis has performed hydrologic and hydraulic analyses for the Federal Emergency Management Agency (FEMA); the Portland District Corps of Engineers; Washington County, Oregon; King County, Washington; and a multitude of other public and private clients.

Mr. Righellis also has extensive experience in the design of technical drainage solutions. Mr. Righellis has solved drainage problems for many public agencies and private clients throughout the Northwest.

Mr. Righellis' experience spans a variety of project types including:

- Flood plain studies
- Drainage master plans
- Sanitary sewer systems design
- Street and storm drain design
- Water system master planning
- Local improvement district administration
- Software development
- Development of design standards

Flood Plain Experience

For over 20 years, Mr. Righellis has provided flood plain analysis services for:

- Federal Emergency Management Agency
- Portland District Corps of Engineers
- King County, Washington
- State of Oregon
- Washington County, Oregon
- City of Beaverton, Oregon
- City of Henderson, Nevada
- Other public and private clients.

Mr. Righellis has analyzed over 200 rivers, creeks, and lakes in Oregon, Washington, and Idaho. He has studied rivers ranging in size from the Willamette River in Oregon and the Clark Fork in Idaho to small tributaries. Two letters of commendation have been received from the Corps of Engineers for his hydraulic modeling of the Cowlitz and Toutle Rivers and one from the Federal Emergency Management Agency for several studies in Oregon.

Drainage Problems Solutions Experience

Mr. Righellis has solved drainage problems for public agencies and private clients. This work has included leading the technical reviews of site developments and floodplain alterations, designing remedial solutions to existing problem areas, and developing unique solutions to increase the use of lands inundated by flooding.

Land Reclamation Projects

Pittman Wash Erosion Protection
Client: City of Henderson, Nevada
Location: Henderson, Nevada

Along 1,000 feet of arid wash bank was eroding from high velocities. The proximity of new developments made this erosion unacceptable. Based on detailed flood stage and velocity distribution analysis, including secondary velocities, solution options were developed and a slope-back rip rap project approved.

Childs Road Property Flood Plain Analysis
Client: Richard G. Helzer, Attorney at Law
Location: Clackamas County, Oregon

This property is partially inundated by a bypass overflow from the Tualatin River to the Oswego Canal. Four reclamation options were developed and analyzed for their impact, cost, benefit, and permit requirements. The options ranged from filling certain areas of the parcel to creating a flood protection dike. The result was a concise report in lay terms that identified the four options, which included the "no reclamation" option.

Ash Creek Property
Client: Dr. Eugene Davis
Location: Tigard, Oregon

This 20-acre parcel zoned as an office/commercial park was inundated by large areas of Ash Creek's flood plain and wetlands. Working closely with the City of Tigard staff and federal and state agencies approval was granted for the reshaping of the flood plain and wetlands. The needed flood plain and creek channelization improvements were analyzed by Mr. Righellis. The analysis and conclusions met the rigors of all applicable city, county, state, and federal regulations.

Hall Creek Properties
Clients: Several property owners
Location: Beaverton, Oregon

Mr. Righellis solved a flooding problem for several land owners along Hall Creek in Beaverton. This small creek had been altered several times since the 1930s without permits, including several recent changes. Mr. Righellis led the effort to obtain all the permits to bring this area into compliance with local, state, and federal agencies. The creek was realigned to an optimum location and shape, a new culvert crossing of S.W. 114th Avenue was installed, and fill was placed to allow development. The result is more efficient flow characteristics, improved wetlands, and land that can now be developed to its best use.

Drainage Master Planning Project Experience

Forest Park Estate Drainage Master Plan
Client: HGW, Inc.
Location: Portland, Oregon

Mr. Righellis was project manager for this comprehensive drainage master plan for a 607-acre development which addressed runoff, erosion, and siltation control. Runoff from the 1,060-acre basin was regulated by expanding the existing lake and creating three smaller facilities to form an integrated system.

Johnson Creek Backwater Study
Client: City of Beaverton, Oregon
Location: Beaverton, Oregon

Mr. Righellis performed the hydraulic analysis and supervised acquisition of the required permits for the roadway crossing of Johnson Creek and one of its tributaries. The hydraulic analysis identified a solution to backwater flooding on upstream properties without adversely affecting downstream properties. The project involved preparation of a national fill removal permit from the Corps of Engineers and a Division of State Lands permit. Mitigation measures included habitat improvements to an existing beaver pond upstream from the crossings.

Barnes Road Project
Client: Washington County, Oregon
Location: Washington County, Oregon

This project included analyzing the impact of the relocation of the crossing of Barnes Road over the Johnson Creek flood plain in Washington County. The original road crossing is low and subject to flooding. With this project, a new high-elevation road crossing has been designed without increasing flooding on upstream properties while keeping the cost of the crossing affordable.

10th Street L.I.D.
Client: City of Beaverton, Oregon
Location: Beaverton, Oregon

This new low-grade road crossing of the South Fork of Beaverton Creek was designed to integrate into existing downstream site development improvements. The crossing was sized to pass the 100-year event without overtopping the road and not create additional flooding on upstream properties.

I-5/Kruse Way Interchange
Client: Oregon Department of Transportation
Location: Clackamas and Washington Counties, Oregon

Mr. Righellis is providing the hydraulic analysis for preparation of design alternatives for this major interchange.

Centennial Trail Project
Client: Centennial Trail Office
Location: Spokane, Washington

This new trail benched into the cliffs of the Spokane River was placed low to the river in the flood plain. Mr. Righellis analyzed the impact of the trail on flood levels and prepared a report on its impacts as part of obtaining City approval for the construction.

Washington County Drainage Master Plan, Phase I, Oregon
Client: Washington County, Oregon
Location: Washington County, Oregon

As the County's Project Manager, Mr. Righellis created the scope of work for this important initial step toward a comprehensive approach to drainage in Washington County. In 1974, growth in Washington County was accelerating at record levels and there were no sophisticated approaches to drainage. In 1975, an emergency resolution was passed by the County Commissioners that identified and established conservative floodplain development restrictions and on-site runoff detention requirements. The floodplain requirements were generally successfully implemented, but the detention requirements were not.

The detention facilities that resulted from the design criteria were small, functionally ineffective, eyesores, difficult to access and maintain, and inadequately funded for maintenance. Since every development was required to construct a detention facility, the county soon had 300+ facilities. Their existence became a major political issue.

Mr. Righellis analyzed the situation and made recommendations to the County Commissioners for abolishment of the ineffective detention requirements and implementation of basin-wide drainage master planning. This action is still being implemented and is leading the County in a unified, more cost-effective implementation of sound drainage management practices.

Washington County Drainage Master Plan, Prototype Plan
Client: Washington County, Oregon
Location: Washington County, Oregon

Mr. Righellis was a project manager for a joint effort to provide Washington County with a three-basin study totaling 25 square miles. This master plan established standards for all future drainage master plans for the County. The project required extensive public participation/information efforts including three major committees.

Ash Creek Basin Drainage Master Plan
Client: Washington County, Oregon
Location: Washington County, Oregon

Mr. Righellis led key tasks for this project including a natural resources inventory and integrating land use objectives into the master plan. He also provided assistance in preparation of the detention plan for the basin.

City of West Covina Master Drainage Study
Client: West Covina, California
Location: West Covina, California

Mr. Righellis directed the analysis of the drainage system which serves the city's 90,000 people. A unique hydrologic and hydraulic computer model was developed and used successfully to analyze the existing drainage system and to develop recommendations for improvements.

In the Lake Oswego area, Mr. Righellis developed several options to reclaim a large land parcel partially inundated by flood waters. The solutions ranged from filling certain areas of the parcel to creating a flood protection dike.

Mr. Righellis has also been involved with several road-crossing replacement projects. Mr. Righellis analyzed the impact of the relocation of the crossing of Barnes Road over the Johnson Creek flood plain in Washington County. The current road crossing is low and water overtops it during heavy rainfalls. The challenge in this project was to construct a new road crossing higher than the flood plain without increasing flooding on upstream properties, while keeping the cost of the crossing affordable.

A few years ago Mr. Righellis analyzed the impact of a Southern Pacific Railroad rail line realignment that encroaches into the Willamette River in Lane County. The original alignment utilized a tunnel that was failing. This emergency rerouting project required Mr. Righellis to analyze and secure approval of this encroachment in record time. Utilizing his excellent relationship with FEMA and the Corps of Engineers, he was able to quickly receive the base information from these agencies, analyze the situation, and develop a unique approach that fostered quick approval.

Drainage Master Planning Experience

Mr. Righellis has performed and directed the technical efforts on several drainage master plans for cities, counties, and owners of large land parcels. Mr. Righellis has also served as project manager for the West Covina Master Drainage Study, Forest Park Estate Drainage Master Plan, and a series of Washington County's drainage master plans.

As Washington County's Project Manager of the Phase 1 Drainage Master Plan, Mr. Righellis helped guide and shape the study process and resulting plan, and developed the subsequent policies adopted by the Board of County Commissioners. The idea of the transfer of drainage responsibilities from the County to the Unified Sewerage Agency was developed under the leadership of Mr. Righellis.

Software Development Experience

Mr. Righellis is the co-author of *CIVIL TOOLS*, one of the most popular civil engineering computer software packages on the market today. His creations also include the development of software for engineers, surveyors and public agency administrators. Mr. Righellis was part of the software team that developed the stress analysis programs for the first flights of the B-1 bomber.

Education

M.S.C.E., Utah State University (specialty in hydraulics)
B.S.C.E., University of the Pacific, Cum Laude

Mr. Righellis' graduate-level education focused on advanced hydraulics in the areas of river flow analysis, channel design, and lake pollutant transport. These specialties required the use and creation of advanced mathematical computer applications.

Professional Registration

Professional Engineer in California, Oregon, Washington, and Nevada

Professional Association

American Public Works Association

Other Flood Studies For Public Agencies

King County Basin Mapping and Hydraulic Studies
Client: King County Department Land and Water Resources
Location: Various areas throughout King County, Washington

King County is creating basin plans for its major developing basins. Since 1988, Mr. Righellis has performed flood plain analyses for major rivers and creeks in the basins. During this project, Mr. Righellis refined a unique analytical approach that determines how much land can be reclaimed from a flood plain without increasing the elevation of the flood plain. This approach was instrumental in the establishment of specific regulations for King County's new surface water management ordinances.

Since 1993, Harper Houf Righellis, Inc. has managed the $650,000+ multi-year contract for mapping and modeling major rivers such as the Raging River; North, Middle, and South Fork Snoqualmie Rivers; South Fork Skykomish River; Tolt River; and Middle Green River.

Cowlitz-Toutle Rivers Sedimentation and Flood Stage Study
Client: Corps of Engineers, Portland District
Location: Cowlitz County, Washington

The purpose of this bi-monthly monitoring project was to determine the amount of sedimentation deposited from post-eruption Mt. St. Helens. Every other month for two years, the impacted reaches of the Cowlitz and Toutle Rivers were surveyed to determine the amount of sediment deposited in the rivers. From this information, the flood plain hydraulics model was revised and new flood plain elevations determined. These new elevations were incorporated into the flood warning system for the properties protected by dikes.

Both in 1986 and 1987, letters of commendation were received from the Corps of Engineers for the quality of the work performed.

Road Crossing Hydraulic Analysis Projects

185th Avenue Project
Client: Washington County, Oregon
Location: Washington County, Oregon

This major five-lane arterial road improvement crosses two major water courses, Beaverton Creek and Willow Creek. The expansion of the roadway resulted in new road grades at greater widths. The Beaverton Creek crossing was replaced with a clear span bridge of the creek. This new structure, including its wetland mitigation areas, was designed and analyzed to not increase flooding on upstream properties.

The Willow Creek crossing and the needed analysis was more complicated due to the geometric constraints of the intersection it flows under. Pre-cast box culverts were necessary for the crossing to facilitate the complex detour logistics. A series of low-flow obstructions were designed into the bottom of the culverts to create a natural bottom for fish passage.

Public Appointment

Unified Sewerage Agency Advisory Commission
Washington County, Oregon — Member, 1985-1987
Vice-Chairman, 1987-1989

Lectures and Presentations

Portland State University

- Instructor of water resources and hydraulics engineering courses from 1982 to 1998.
- Coordinator of *Site Development and Engineering* course created and instructed by David Evans and Associates, Inc., Spring 1990.

Seminar -- *Application Techniques For Programmers*, 1985.

American Public Works Association guest speaker at two conferences. Topics were public works administration and civil engineering computerization. 1984 and 1985.

Arid Regions Floodplain Management Association conference speaker. Topic was Ice Jam Analysis. 1999.

Publications and Copyrights

Reports and Manuals:

- *A Mathematical Model of the Dispersion of a Concentrated Substance For Use in the Great Salt Lake's South Arm*
  by Anthony O. Righellis at Utah State University, 1978.

- *Flood Water Surface Elevation Determination Manual*
  by Anthony O. Righellis, P.E. at David Evans and Associates, Inc., for the State of Oregon Department of Land Conservation and Development, 1984.

Software copyrights:

- *Pressure Pipe Network Analysis*
  by Anthony O. Righellis, P.E. at David Evans and Associates, Inc., copyright 1984.

- *Civil Tools*
  by Anthony O. Righellis, P.E. and Roger L. Shogren, copyright 1986.

- *R.P.N. Screencalc II-S*
  by Anthony O. Righellis, P.E. and Roger L. Shogren, copyright 1987.

- *Road Earth*
  by Anthony O. Righellis, P.E. and Roger L. Shogren, copyright 1988.

- *Site Earth*
  by Anthony O. Righellis, P.E. and Roger L. Shogren, copyright 1988.

the rock was most likely related to the construction of Lower Surf Pines Road. While on site, I noted that

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March 19, 1999

Richard Schroeder
2706 NW Vaughn
Portland, OR 97210

RE: Surf Pines Flooding & Comments- Response to your letter of March 16, 1999

Dear Mr. Schroeder and Mr. Charlton:

I have reviewed your letter and attachments and appreciate you sharing this interesting historical information with me. I concur with your statements that Lower Surf Pines Road was built in 1949 and that it extends south through the Pinehurst Property.

I would like to address 1) a statement made in a February 25, 1999, Email letter that I sent to friends and close correspondents regarding the Surf Pines flooding problem; and 2) written summaries by Radio KAST of my February 24, 1999, comments to the County Commissioners during a hearing in which Surf Pines residents asked for a solution to their flooding problems.

In the third paragraph of my Email letter, I stated that "the interdune swale was blocked years ago by extra road gravel and rock that somebody dumped just across the south property line."

In the KAST summary, I am paraphrased by a person named DULSEN, who states: "Horning also offered another possible reason why water is ponding up at the south end. He cited a 20 year old gravel bed at the end of the Surf Pines Road which Horning said appears to be on Pinehurst property." DULSEN also reported that I had commented that flooding was caused by other factors, as well, some of which were earlier mentioned by Paul See, and which I reiterated in order to educate the Commissioners.

My intention in stating the existence of this rock and gravel was to point out that the overland flow of water in the interdune swale was being blocked by a high area covered with gravel just south of the Surf Pines south property line, not by your new sand road, located some 200 ft farther to the south in Pinehurst. It was clear during my visit to the site the day before the testimony that no water had yet ponded against your sand road. All ponding was caused by the rocky high area just south of the Surf Pines. Therefore, the complaints by the Surf Pines residents were based on false logic and they had no grounds to level complaints against you or the Pinehurst project. While I was on the site, I took several sets of stereo photographs that showed the elevation of the ponded water and the elevation of the water table in your waterline ditch on the southeast side of the rocky pond barrier. There was a 2 to 3 ft difference in elevation between the pond surface and the water in the hole. This showed that the true water table was below the pond's surface by a significant distance. This indicates that the excess water of the pond was migrating overland from areas of higher water table to the north. I also took photographs showing the water flowing south over the blacktop of Horizon Lane, which confirms this conclusion.

In my testimony, it was my <u>intention</u> to state that the age of the gravel and rock was <u>at least</u> 20 years old. In the interest of fairness and objectivity, I wanted to make it clear to the Surf Pines folks that there was no activity on the part of Pinehurst that could be attacked and blamed for the flooding. I do not believe that I said that the gravel bed was 20 years old. I believe I stated that it was <u>at least</u> 20 years old. I believe I have been

Subject: **All: Surf Pines Flooding Follow-up**
Date: Fri, 19 Mar 1999 12:06:42 -0800
From: "Thomas S. Horning" <horning@mail.pacifier.com>
Organization: Horning Geosciences
To: Shaw Family <IMAShaw@aol.com>, jolma@pacifier.com, jhorning@pacifier.com, dhorning@pacifier.com, holmsted@gorge.net, jadegod@transport.com, 74014.1741@compuserve.com, Young Family <peyoung@bendnet.com>, kirbyd@teleport.com, dwend@iea.com, "Bodell, J. Michael" <mbodell@unocal.com>, Mark.B@worldnet.att.net, "Barnes, Mark" <mbarnes@pacifier.com>, mbartlett@phelpsdodge.com, 74101.2703@compuserve.com, lecwclark@worldnet.att.net, "Cockroft, Ben" <benlindy@seasurf.net>, conrey@mail.wsu.edu, crfield@netbridge.net, joegoetze@aol.com, gah@eaest.com, karin@primus.com, kkidz7@juno.com, kjohnson@harborside.com, eamjones@msn.com, lajordan@pacifier.com, Bill_Kershul@compuserve.com, leok@rosenet.net, "Kershul, Vic" <evileye2@ix.netcom.com>, Kris@bilingualbooks.org, "Kershul, Greg" <gkershu@pacifier.com>, "Maine, Neal" <nmaine@transport.com>, MMccgeol@aol.com, dale@sequent.com, wniem@teleport.com, dolson@firstnethou.com, torqmama@southwind.net, curt@ch1.ch.pdx.edu, jbreng@seasurf.net, ksayce@aone.com, psee@west-connect.com, siedhoff@gu.gonzaga.edu, simpson@ecentral.com, taylor@oce.orst.edu, taylore@geo.orst.edu, andreas@oregoncoast.com, "Huling, Kirsten (work)" <Huling@clatsop.cc.or.us>

Greetings News Fans:

The flooding is beginning to decline in Clatsop Plains. Ponds never seen before are now sinking out of site back into the grassy fields of the dunes. There is still quite a bit of water standing in the lower road of the Surf Pines subdivision, and the pumps have been running for at least two weeks. The flow of 1500 gpm over the west face of the dune has eroded a very interesting valley into the face. The flow continues across the beach, cutting a low gulley in the sand. Apparently, the pump drains water faster than it flows or seeps back into the lake, but once the pump is turned off, the water rises again and blocks the road. With Spring Break coming and loads of tourists due, the sheriff has issued a warning about the beach gully as a potential axle-breaker for cars. If the tide is coming in, the low storm-eroded beach will fill quickly and cars will not be able to avoid sneaker waves. The storms have cut a 6 to 12 ft high sand cliff the entire length of Clatsop Plains. Even strollers will have a hard time escaping a large wave, because there is no easy way to escape to the east. The sheriff also warns youngsters to be careful of the cliff face, as it may collapse. This is a classic situation for wannabe cave diggers to excavate a tunnel into the cliff. There is a risk of burial and suffocation if such a tunnel collapses.

I would like to make a small correction in my previous Email regarding the Surf Pines problem. I commented about it under a letter entitled "Water, Water, Everywhere". I noted in the letter that part of the flooding problem occurred because "the interdune swale was blocked years ago by extra road gravel and rock that somebody dumped just across the south property line" of Surf Pines. Actually, that gravel is a southerly continuation of the early 1949 Miller & Malarkey Road that is generally known now as Lower Surf Pines Road. The rock was not "dumped" there, it was actually graded and smoothed in 1949 over a naturally high mound of sand that was blown in during dune formation. Similar mounds along this interdune swale break the swale up into lower areas that flood more readily during heavy rain, and higher mounded areas that are generally dry. So, in actual fact, the Surf Pines flood was ponded by a high area

that formed by natural processes. It is just that with the rapid and heavy rains of the past several months, the water table simply rose high enough farther to the north for it to leak onto the surface and water to travel overland south to the wetlands basin in which the Lower Surf Pines Road was originally built. Voila! Flood.

I am writing this to set the record straight, just in case I have caused people to believe that somehow this flood is the cause of human activity. In addition to the earlier Email, I also spoke as an interested citizen at a meeting with the Clatsop County Commissioners. I apparently failed at that meeting to make it clear that the rock was simply a veneer over a natural hummock of sand. This apparently caused others, including Commissioner Backensen, to somehow conclude that the road gravels had been pushed into the interdune swale from the Schroeder homesite- some 200 ft away, at least, perched on the crest of a dune- thereby causing the lower road to flood. This conclusion on Mr. Backensen's part is regrettable, as nothing of the sort has ever happened. There are excellent aerial photos that show the original rock road. I suppose that, with the rapidity of testimony at the meeting, Mr. Backensen may have gotten things mixed up and confused. Very odd. Apparently, Mr. Backensen's comments have worked their way into the UPI or some other news service and have been spread around the state and to who knows where else, potentially causing the Schroeder family some undeserved embarassment.

So, once again, it seems that my best intentions have turned around on me and have caused problems for others. I suppose when there are impatient, inconvenienced people who can't understand the world around them that they will seek to blame their neighbors for their problems. I do regret having not made my comments more concise, both in testimony and in writing. It seems that any weakness or lack of clarity will be either exploited or misunderstood by other who seek ammunition in their causes.

It bothers me that my efforts to bring objectivity to an inflamed issue among the community and neighbors can result in making the problem worse. One of my goals in returning to the coast was to bring a bit of scientific expertise to an area that has only limited resources. I have always felt that we in the field of science and engineering have lots to offer our communities, especially when experienced perspective is needed. It is shame that facts and considered opinion can be twisted so.

I think it is appropriate to offer an apology to the Schroeder family and anyone else who feels that my comments hampered, rather than helped, the situation. I would appreciate it if those who share my Emails would pass along this one to the appropriate parties out there, so that this correction gets to the people who need them.

Jeez, this has been one weird winter. I am beginning to rethink this scientific story-telling business of mine. I know that you friends and family out there to whom I send these monologues generally appreciate them- long-winded mangled sentences notwithstanding. I am thinking that maybe I should be more careful in what I say. As my old boss at ASARCO said, "If lawyers are involved, don't say anything." It seems he was right.

Thanks for your attention and for sending on the "rest of the story".

Tom Horning

March 16, 1999

Mr. Tom Horning
Horning Geosciences
808 26th Ave.
Seaside, Oregon 97138

Re: Your publication dated 2-25-99 and our subsequent telephone conversation

Dear Tom,

As I explained to you over the telephone, your notion that someone dumped extra road gravel on the northern end of our property is not true. In addition, no one blocked the interdune swale. And as mentioned on the phone, we did not think some of your comments were appropriate. To us, they only fuel the fire. To that end, I would like to explain the early history of Surf Pines. If you question anything you are about to read, please call me and I will send supporting documentation.

Barney Lucas began acquiring property in the SP area in the early 1940's. His early holding were called Lucas Bend Farm Nursery. In 1948, he put his SP property on the Market; advertising in the Oregon-Journal. At that time, he was living in Neah-Kah-Nie and building a nine hole golf and developing homesites. In the spring of 1949, Barney sold the first SP properties to Harold Miller and Herb Malarkey. Those parcels extend 2700 feet south of the Schroeder house. On the same day the land sale closed, March 26, 1949, Barney sign a contract with Mr. Miller and Mr. Malarkey that specifically stated they would pay Barney and additional $12,000 to build the SP entry road from Highway 101 and into their properties. This happened because Barney did not have the money to build roads. Barney made it very clear that without the financial support for the Miller and Malarkey family, he would have sold his holding in large tracts and stayed in Nea-Kah-Nie. The land sale and road money got Barney started with the SP development (enclosed please find a copy of the road contract).

Tom, the important issue is that the only rock on our lower road is the rock from the original road (if you have proof of someone dumping rock just across the southern SP boundary, we would like to see it). For years this was a good road. In fact, we used the road for years. However, several years ago SP installed the concrete barricades across our road to keep off road vehicles out of SP. I believe the real issue is the difference in elevation between the original Pinehurst road and the elevation of the SP roads. I also believe that Mr. Miller and Mr. Malarkey liked the southern property because it had higher elevations. They did not make their fortunes by being stupid.

Your statement about Pinehurst helping SP and who should pay could be reversed for the following reasons 1) SP has had flooding problems for years in their low areas and have done nothing to address the issue 2) This years flooding reached a critical level by February 2 3) When SP finally got a pump, they used it for two (2) days before someone ran over it and broke it 4) As the water continued to rise they did nothing but blame Pinehurst 5) Various members of

the SP community, including the acting President of the SPA, threaten Pinehurst with lawsuits 6) Pinehurst has had to retain legal council and professional help to address the flooding 7) SP has experienced hardships with the flooding 8) Pinehurst has had to rebuild roads and other infrastructure (approximate cost of professional and legal help $90,000) as a result of the flow of water that swept into Pinehurst once the water reached 4 ft on the south end of Ocean Drive and after the SP people removed the sand bags that had been damming the water.

Tom, there is one more issue I find interesting. In December 1950 Barney Lucas tried to vacate a recorded beach easement through SP. The County reject his request. But you might be interested in reviewing the enclosed letter from Barney to Judge Guy Boyington dated April 18, 1950. Please note the language " a considerable lake has been created". I have enclosed a 1958 plat map showing the location of this easement as well as a yearly rainfall record that recorded the rainfall for 1950. **Please note that this easement is just north of Horizon which runs east to west in SP. I believe he realized he built a portion of the original Ocean Drive in a wetland that extended from his northern holdings.** As a young boy, I remember playing with Jim Lucas in the area across from the Ter Har house. We called it frog lake and it was a real lake that at times covered the road. I also find it interesting that not one lot was sold between 3B and 14B as of the1959 plat.

Tom, we would like you thoughts after you review this material. In closing, we will not change our position on the Miller and Malarkey road. As I mentioned on the phone, we have numerous photos of our road which show no excess rock or a gravel pile. The only extra material (sand or gravel) that appears today was a result of our people trying to make the water line connection on February 11. The other thing you should be aware of is that SP water does not flow through the Pinehurst property. A quick review of the survey work by Coast surveying should confirm that water does not flow up hill. Prior to construction, Pinehurst only had 100 feet of wetlands. Again, we feel your comments about the road are unfounded and have only fueled the fire.

Sincerely,

RTS RTC

Richard T. Schroeder and Richard T. Charlton

Flood Plain Project Experience

Flood Insurance Studies

The following is a list of community flood insurance studies that Mr. Righellis has performed for the Federal Emergency Management Agency (FEMA) and the Corps of Engineers (COE). The technical result of these studies was the determination of the elevation and location of 100-year event flood plains. These studies represent the analysis of hundreds of miles of rivers and hundreds of bridge and culvert crossings.

Community	Client
Benton County, Oregon Flood Insurance Study	COE
Bonner County, Idaho Flood Insurance Study	FEMA
Deschutes County, Oregon Flood Insurance Study	COE
Kootenai County, Idaho Flood Insurance Study	FEMA
Lake County, Oregon Flood Insurance Study *	FEMA
Linn County, Oregon Flood Insurance Study	COE
Polk County, Oregon Flood Insurance Study	FEMA
Shoshone County, Idaho Flood Insurance Study	FEMA
Wheeler County, Oregon Flood Insurance Study *	FEMA
City of Albany, Oregon Flood Insurance Study	COE
City of Bend, Oregon Flood Insurance Study	COE
City of Coeur d'Alene, Idaho Flood Insurance Study	FEMA
City of Corvallis, Oregon Flood Insurance Study	COE
City of Dallas, Oregon Flood Insurance Study	FEMA
City of Fossil, Oregon Flood Insurance Study *	FEMA
City of Independence, Oregon Flood Insurance Study	FEMA
City of Mitchell, Oregon Flood Insurance Study *	FEMA
City of Monmouth, Oregon Flood Insurance Study	FEMA
City of Mosier, Oregon Flood Insurance Study *	FEMA
City of Paisley, Oregon Flood Insurance Study *	FEMA
City of Philomath, Oregon Flood Insurance Study	COE
City of Priest River, Idaho Flood Insurance Study	FEMA
City of Sandpoint, Idaho Flood Insurance Study	FEMA
City of Spray, Oregon Flood Insurance Study *	FEMA
City of Vernonia, Oregon Flood Insurance Study	COE
City of Wasco, Oregon Flood Insurance Study *	FEMA

* *In 1988, FEMA sent a letter of commendation for the quality of the work performed in these communities.*

PAUL D. SEE AND ASSOCIATES, INC.
300 SURF PINES ROAD
SEASIDE, OREGON 97138
738-5869

REGISTERED PROFESSIONAL OREGON GEOLOGIST

TO WHOM IT MAY CONCERN: October 8, 1999

I have been advised that a select group has been asked to convene on October 21 to discuss sesonal groundwater levels on central Clatsop Plains. While this letter might appear presumptious, I nevertheless offer my personal observations based on more than 70 years of close relationship with the area.

I grew up on the Plains, and while I worked elsewhere for 13 years, my parents continued to live here and my father developed the original domestic water system for Surf Pines. Much of the central Plains was owned by my ancestors until the 1930's, and I spent much of my childhood roaming the dunefields. As a professional geologist and inheritor of my father's water well business in 1965, I feel that I can offer some historical perspective to the perceived water level problems on the Plains.

1) Normal water table elevations under the dunefield vary annually about 30 inches. Last winter, due to the exceptionally intense rainfall over a short period, the water table rose as much as five feet under the entire Plains, including Fort Stevens Park. This of course raised the level of the lakes, and added considerable demand on discharge routes.

2) Neacoxie Lake is currently the high point on the local aquifer, and its ability to discharge along Neacoxie Creek is of critical importance since that is the only surface route from the Lake.

3) During the 1930's and until about WWII, Clatsop County maintained a wooden flume along the uppermost several hundred feet of Neacoxie Creek to guarantee unobstructed discharge from the Lake. When the Commission was apprised of this last year, and was asked why it no longer maintained the discharge route, their response was that it was private property, and they had no jurisdiction. I submit that this was private property in the 1930's.

4) A massive series of beaver dams now blocks this part of Neacoxie Creek, and almost all water coursing south from this point is being discharged from the dunes, rather than the Lake. I can point out numerous "springs" along the Creek to anyone interested.

5) I recently encountered a group inspecting the newly replaced culvert on Surf Pines Road, wherein the concensus of opinion seemed to be that the new culvert was higher than the original and had abruptly created a ponding upstream. I submit that the culvert is NOT higher than the original, since I own the south-adjacent property and carefully observed the construction. The "lake" someone in the group claimed was created by the new culvert has not changed since the late 1940's, and there are numerous individuals who can attest to this. Russ Earl, a present County Commissioner, grew up on this land, and his father fished in the "lake" in the "50's.

R+T This is the letter I submitted to the chairperson at meeting on Clatsop plains flooding.

6) Any investigation of the local rainfall records for the last winter will reveal a rare exception to the average. We received over 100 inches of rain in a few months. While most of this water percolates through the sand to the ocean, a portion must run off across the surface. The Neacoxie Lake discharge is therefore critical during these rare circumstances.

7) In March of this year, one could dig a 2" deep hole far out on the beach and retrieve fresh water, a very rare circumstance revealing the exceptional height of the water table under the dunefield.

8) The interdune depression adjacent to Ocean Ave. in Surf Pines has matured from a bare sand valley in the '30's to a densely vegetated forest of trees and brush. Water originally accumulated only briefly along scattered points in this depression, generally only a foot or so in depth until vegetation took over. The buildup of organic debris on this valley floor has now inhibited the natural seepage to the water table. The recent high water incident overwhelmed this natural drainage, causing a surface flow to the south. Similar conditions existed along this entire depression to Gearhart. Anyone driving Hwy 101 from Surf Pines to Seaside should have noticed extreme water levels east of the highway as well, causing considerable damage to some homes.

In summary, I believe that the recent high groundwater incident on the Plains was a rare anomaly resulting from global weather vagaries, and it is not likely to occur again in the near future. However, addressing the inhibited discharge from Neacoxie Lake would be a major step toward controlling future flooding.

Sincerely,

Paul D. See, RPG

Received From Paul See
10/10/99
Jim Lucas

Surf Pines Association
33317 Surf Pines Lane • Warrenton, OR 97146

February 2, 2000

Dear Surf Pines Association Member:

Recently you may have received a letter addressed to "Fellow Surf Pines Residents" from a couple who are relatively new to Surf Pines. Since our flood mitigation project is nearing completion the Board thought this would be a good time to set the record straight and update the membership on that program along with other Surf Pines events which affect all of us.

The relatively good weather we have enjoyed in December and January has left some with the impression that the flood mitigation project was an over reaction to what might have been a once in a lifetime event. Whether it proves to be overkill, inadequate or just about right, only time will tell. The local weather records of the last 150 years list a number of years with rainfall greater than 1998-99. But it is the accumulative effect of several consecutive years of above average rainfall, which is significant.

The Special Assessment

Early in February 1999, parts of Ocean Drive were so flooded that residents and their families, including young children were forced to wade across Ocean Drive in water that reached 4 feet in depth in order to get to and from their homes. As the rain continued and the water rose, the Board retained the hydro geological firm, Northwest Geological Consultants, Inc. to advise the Board as to the causes of the flooding and as to the total amount of water that it might be necessary to remove in subsequent years. Later the Board retained the engineering firm of HLB & Associates, Inc. to design alternative solutions to prevent future flooding.

Article II of the Association Bylaws reads in part as follows: "2.1 LIMITATION OF PURPOSE. The purpose of the Corporation is limited to development, maintenance and operation of the common properties and amenities owned and operated by the Corporation, as per Article II of the Articles of Incorporation." Our roads are common properties. The Board's legal counsel advised that a road is not being maintained if it is not passable.

At the June 28 meeting of the Board of Directors an Ocean Drive homeowner, on behalf of other unnamed Ocean Drive residents, stated that it was their wish to have the Secretary enter into the minutes a statement that if the Board presented a viable solution to prevent future flooding and the membership rejected it, a class action lawsuit would be filed against the Association for remedial measures and expenses.

At the request of over ten percent of the membership for a Special Informational Membership Meeting, such a meeting was held on July 31 at the Seaside Convention Center. At that meeting, which was well attended, the flood threat, various alternatives, and three alternative proposals from our engineering consultants to deal with it were discussed at length by the members present and by members of the Board.